Notebook, N-88-01-00

This notebook covers the period January 1888-June 1889. It was used by D. T. Marshall to record notes regarding carbonization of gas light mantels, the production of chlorine by electrolysis, insulation experiments, and various chemical analyses. Near the end of the book are drafts of two letters, probably to Edison General Electric Co., relating to samples of insulation sent for testing to the West Orange laboratory. The spine is labeled "46." The pages are unnumbered. Approximately 90 pages have been used.

Only the material relating to gas light mantel and insulation experiments has been filmed.

Jan. 1898.

Experiments on Welsbach Incandescent Mantels for gas burners.

Experiment—

Soaked Nottingham Lace in solutions of different chemicals & then dried the mantels so made & partially carbonized them in a hot oven.

Then put one in the flame of the burner & the effect noted.

It was found that by burning a much fatter Chimney the draught was better & the heat greater & making the light more intense. At the same

time it was found that the insects were apt to be torn by the violence of the draught.

Solutions tried
Antimony & Potass Tart.
Barium acetate
Calcium "
Strontium "
Magnesium "
Lithium "
Cadmium Chloride
Cerium Oxalate
Cobalt acetate
Zinc "
" Chloride
Wolframic Chloride
Uranium acetate
Thallium Chloride
Rubidium Chloride
Metallic platinum wire
" " sheets with holes punched for draught

Platinum Chloride
Nickel Oxalate
" acetate
Molybdic acid
Manganese acetate
Magnesium Chloride
Copper acetate
Chromic Chloride
Magnesium Sulphate

Magnesium Sulphate

"

Melted somewhat & was very brittle & fragile

Magnesium Acetate

Was very luminous but too fragile to be of any use —

Tried the following mixtures to render it less fragile but without success.

Mg acetate	90
Borax	10

~~Mg~~ Mg A 99
Borax 1

Mg A 90
Sodium Wolframic 10

the Magnesium acetate shrinks badly on burning & gradually falls to pieces.

Antimony & Potassium Tart. — will not hold together
Volatilizes

Barium Acetate —
Not very luminous — fall to pieces immediately
is fusible ✓

Calcium acetate — luminous but fragile & deliquescent — cool standing

Strontium Acetate —
Falls to pieces.

Lithium acetate —
Could get no result — will not hold together.

Cadmium Chloride —
Volatilizes.

Cerium Oxalate — Turns brown on heating & becomes very porous & fragile is not very luminous at strongest heat.

Cobalt acetate —
No result — will not hold

Zinc Acetate
somewhat luminous — volatilizes on heating,

Zinc Chloride —
Fused & ran down in drops.

Wolframic Chloride —
Would not hold — fused

Barium Sulphate made by precipitating $BaCl_2$ in the fabric - Fuses all together.

Sodium Wolframic - Fuses

Rittinum Chloride - Fuses - fall to pieces.

Zirconium Acetate - Very luminous & not nearly so fragile as MgO.

Mixture of Lanthanum & Didymium acetates

" Was considerable body but does not seem to be as strongly luminous as Zirconia or Magnesia

Mixture of Lanthanum & Didymium + Magnesium acetates.

Less fragile than Mg alone — More luminous than that without Mg — Cylinder held together better than when Mg was used alone

Mixture of Lanthanum Didymium & Zirconium

" "

Very luminous & holds well -

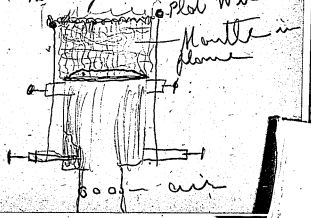
Mantels need to be carbonized as much as possible before lighting as they shrink so as to break in pieces.

Tried different shaped mantels & chimneys.

Circular flame gave best results.

Tried flat burner as below & fastened flat sheet of mantle in flame.

Found it difficult to heat mantle in all parts in flame of that shape.



Asbestos & silver paper,
asbestos string or
platinum wire in
every way possible —
is luminous while
it lasts but fuses
& shrinks up to nothing
when heated hot
enough to give light.

No. 3. – To find Solvent for Compound made by mixing Pentachloride Antimony with Linseed oil –

Most of the reagents dissolved a part + still more formed a kind of paint.

Some dissolved to a black shiny liquid + left a film on evaporating which was not tough.

The notes on quality of film refer to the residue left on evaporating the contents of the bottles on a butter dish.

Experiment No 126.

Trying to find a solvent for Inhaul rubber –

Tried chemicals on following pages without any success whatever.

Some of the ethers etc made it softer & more flexible, but the effect passed off on drying

No. 1. Residue obtained by heating boiled oil in the open air until it becomes tough like varnish at the same time not sticky.

No. 126. = Hard Rubber
No 1 = Linseed oil Residue
No 2 = Metagallic Acid
No 3 - Sol. Insulating Comp'd.
from Linseed oil + Sulphur

Blank = No action
Sm. = Smeltzed
P.S. = Partially Soluble
S. = Soluble
— = Not tried
Em. = Formed emulsion like paint
V.S.S. = Very slightly Soluble

	Ward (Pitch) Rubber and Rubber Substitute	Insul. Comp. No 3.
1 Nitrous action		
2 Action Insufficient		P.S. only thin oil
3 " Oxidizers		
4 " Reducers	P.S.	
5 " Reducers		Sm. film good
6 " Rhodonate		Em. " "
7 " Anhydrides		Em - does not dry
8 " Anhydrides		Hold in suspension - does not dry
9 " Anesthetic		Oily "
10 " Sulphuric		P.S. only oil
11 " Alcoholic		P.S
12 " 18 agent	-	Em - film fair
13 " Yes Reagent		Em - film good + tough

		No 126	No 1	No 2	No 3	
14	Aether tri Chloro Acetat				S	Bubble to black mass not keep
15	Aethyl di Chloro Acetat				P.S.	does not evaporate
16	Aethyl Isobutyrat				S.S.	film poor
17	Aethylen Alcohol			S	VSS	
18	Aethylen Chlorat				Em	film good
19	" Chlorhydrin			P.S.		
20	Aethyliden Chlorat				S	- film good
21	Aethylen Mon Acetat				VSS	
22	Alcohol allylic					
23	" Benzylic			P.S	SS	
24	" Pseudo Butyl					
25	Aethyl Tartarat			P.S.		

		No 126	No 1	No 2	No 3	
26	Alcohol Caprylic				Em	like greatel
27	" Octylic				P.S.	
28	Amyl Aether					
29	Iso Butyl Aldehyd				P.S	film very poor
30	Allyl Sulfid				Em	- film fair
31	" Sulfocarbylamin				P.S.	
32	Allyl Amin		D		—	
33	Aether Acetic				Em	- oily
34	Aether B nitricus					
35	" Caproicic				Em	- film good
36	" Carbonic				P.S	" "
37	" Cyanat				SS	
38	" Di Chlorat				—	
39	" di sulfurat				S	- film very good

		126	1	2	XO 3	
40	Aether Formicic	-		PS		
41	" Hydrochlor Chloral				Em	film good
42	" Malonic					
43	Acid Salicylos				Em	
44	Absolehyde	—		PS		
45	Alcohol Butylic					
46	Iso Butylic Alcohol					
47	Alcohol Propylic					
48	Aether Nitric				VSS	
49	Kresol and Toluidin					
50	Amyl Amin		S	S	PS	
51	" " Chloral				—	
52	Amylen					
53	Amyloxyd Acetic				S	
54	" Butyric				PS	does not dry.
55	Amyl Cyanid				—	
56	" Hydrosulphuret			P.S.	Ins.	
57	Amyloxyd Formicic				—	
58	Amylum Nitric				P.S.	
59	" Nitrosum					
60	Amyl Propionic				—	
61	" Rhodanat				—	
62	" Sulfurat					
63	" Mercaptan Iso-				—	
64	Anethol					
65	Anis Absolehyd					

		126	1	2	3
66	Anis Öl				—
67	Benzol amyl stein Rohlen				
68	Benzo benzoyl				P.S. does not dry
69	Benz Aldehyd				P.S. - Crystalliges
70	Benzol				—
71	Benzol mono Chlorat				S.
72	" Sulfo Chlorid				Black + decomposed
73	" Mono Bromid				—
74	Benzo Nitrit			PS	—
75	" Phenon				P.S. - does not dry.
76	Benzyl Chlorid				Black + decomposed
77	Benzol Chlorat				decomposed entirely
					"
78	Benzylamin mono			PS	PS does not dry.
79	Benzyl bichlorat				—
80	" Chlorat				E.M. - film good
81	" Bromat				—
82	Butyl iso acetic				
83	Butyl iso Bromat		S		
84	" " Formiat				E.M. - film good
85	Iso Butyl acetat				P.S. - film good
86	" " Bromid				P.S. blackens + mottles good film
87	" " Butyrat	1			P.S. film good
88	Butyl Chlorat				P.S. - blackened + swelled
89	Iso Butyl Chlorid		S		
90	" " Formiat		S		P.S.

		126	1	2	3	
93	Iso Butyl Iodid					Em - film good
94	" " Nitrat					PS - film good
95	" " Nitrit					
96	" " Valerianate					
97	" " Amin		S	S	—	
98	" " Iso Butyrat				—	
99	Butyl Nitric					
100	" Nitrosamin					
101	" Alcoholyl (resp.)				—	
102	" Amin (iso)		S	S	PS	- film poor
103	Iso Butylen Bromid				Em	- film fair
104	" " Bunzoat				Em	- does not dry
107	Iso Butyl Sulfo Cyanat				PS	- film good
108	Butyl Mercaptan iso				S	- not tough film
109	Butyrin					
110	Butyron					
111	Butyryl Chlorat =					blochemical
112	Caprylen					
113	Carbonic um di Chlorat				—	
114	Carbonicin tetra Chlorat				Em	- film poor
115	Chloro picrin				Em	- " "
117	Chloral hydrolic				decomposed - insol	
118	Bromace Tribromid				Made tougher & less inflammable	
119	Guajakol				—	
120	Iso Propyl amid Benzol				—	
121	Cuminol					

		126	1	2	3	
122	Cumol					
123	Cymol					
125	Di Methyl Amin					P.S. – film good
126	Di " Anilin					P.S. Em – does not dry
127						—
128	di Chlor Hydrin					
129	di methyl ethyl Carbinol					
130	" " Resorcin					Em does not dry
131	di Pentan					
132	di Phenyl Methan					
133						—
134	Eugenol					—
135	Formamid			P.S.		
136	Furfurol					
137						—
138						—
139						—
140	Nitro Methan					
141	" Pentan					P.S.
142	Nitroso di methyl in			P.S.		
143	" " Methylin					—
144	Nitro Toluol					P.S. does not dry
145	Nitro ethyl bol (meta) ?					
146	" " (Para)					
147	O cumenol					
148	Propenyl Chlorat					dissolves black – no smudge

		126	1	2	3	
149	Propyl alcohol					
150	Propyl Bromid					
151	Iso propyl Bromid					
152	Propyl Chlorid					
153	" Formiate					
154	" Isobutyrate					PS - film not tough
155	" Valerianic					—
156	Pseudo Butyl Chlorid					Sol. to block more drying more S
157	Pyridin (C_5NH_5)					
158	Mesitilen (C_6H_3)					
159						—
160	Methyl acetessig aether					Em - film quite tough
161	" acetic					
162	" Iso Butyrat					Em - film tough
163	Methyl Butyric					PS - sticky film
164	" Cyanid					
165	" Propionic					
166	Methyl propyl Keton					
167	" Sulfo Cyanat					Em - film not tough
168	" Valerianic					
169	Methyl anilin		S	S	—	
170	" Analin					
171	" Bichlorid					
172	" di phenyl Amin			S		
173	" Cyanursäure					Em - film good
174	" Oxyd Benzoic					Em - film tough
175	" " Salicilic					
176	Mono Nitro phenol Xylol					
177	Glycocoll			S		
178	Phicolin		S	S		Decomp. to greasy mass
179	Piperidin $C_5H_{11}N$					

		126	1	2	3	
180	Phosphoruttic Bromat				—	
181	Propyl Butyric iso				Em - film very tough	
182	Phosphorous tri Chloricol				—	
183	Phtalyl Chloricol				Carbonized	
184	Para Aldehyd					
185	Propyl Propionic					
186	Propio Nitril					
187	Propyl Acetic				P.S. - film good	
188	Iso propyl Alcohol			P.S.		
189	Resinoon $C_{29}H_{32}O$					
190	Styrax Alcohol (Cinnamylic)					
191	Tri Methyl Amin					
192	" " " Hydrochloriate					
193	Tri Methylen Chroricat					
194	Tri Methyl Carbinol					
195	Toluidien (meta)					
196	" (ortho)					
197	Tetra Methyl Ammon Hyd					
198	Terpineol $C_{20}H_{18}HO$					
199	Tetra Methyl Ammon Hyd		S	S	Completely Sol. to tough film.	
200	Valeryl Chlorat					
201	Tolual Bromat (ortho)				—	
202	Zimmtaoure Alcohol				—	
203	" Aldehyd				—	
204	" Methyl				—	
205	Terebene				Em - film no tenacity.	
206	Tolual Chlorat				—	
207	Xylol C_6H_{10}				Em - film not tough	
208	Amylum Bromat				—	
209	Xylidine		S		—	
210	Iso Propyl Acetal				—	
211	Wood Naptha				—	
212	Amyl Acetat				Em film tough	

		126	1	2	3
213					—
214	Aether Ozonic				
215	Acetal				Em-film good
216	Kressol (Meta				
217	Acetone				—
218	Acetoni Chloroet			PS	—
219	Phorgen in Benzol				S-black
220	Iso Butter soure acid				Em-film poor
221	Acid Butyric				—
222	" Caproic				—
223	" Caprylic				—
224	" Chloro Acetic				—
225	" Carbolic				—
226	" Chloric				—
227	Kressalans Phenol				—
228	Acid Cresylic				—
229	Acid di Chloro Acetic				—
230	" Formicic				—
231	"				—
232	Acid Perchloric				—
233	Salicylaldehyd				—
234	acid Phosphorus				—
235	" Pyrophosphorous				—
236	Pyro Brenzlich Soure				—
237	Acid Sulpho Vinosum				—
238	" Tri Chloro Butyric				—
239	Undecylen soure				—
240	Acid Valerianic				—
241	Methyl Carbonat				—
242	" Chloroform				—
243	Xylenol (Meta)				—
244	Acid Propionic				—
245	Hexyl Alcohol				—
246	Ammon Hydrate		PS	S	—

		1/26	1	2	3
~~247~~	~~Bee Hives~~				
248	Oil Spearmint				—
249	" Analine				—
250	" Thyme				—
251	" Camphor				—
252	" Fusel				—
253	" Sassafras				—
254	" Tar				—
255	Succus Conii				—
256	Oil Copaiva				—
257	" Birch				—
258	" Spike				—
259	" Calamus				—
260	" Amber				—
261	" Cedarwood				—
262	" Angelica Root				—
263	" Apple				—
264	" Prickly Ash				—
265	" Bay				—
266	" Bergamot				—
267	" Cardamom				—
268	" Cedrat				—
269	" Celery				—
270	" Coriander				—
271	" Cherry Bench				—
272	" Chamomile				—
273	" Canada Snake Root				—
274	" Cummin Seed				—
275	" Caraway seed				—
276	" Cloves				—
277	" Cajeput				—
278	" Dillseed				—

		126	1	2	3
279	Oil Cinnamon				–
280	" Erigeron				–
281	" Eucalyptus				–
282	" Fire weed				–
283	" Fennel Seed				–
284	" Geranium				–
285	" Ginger				–
286	" Golden Rod				–
287	" Horseradish				–
288	" Horsemint				–
289	" Juniper Berries				–
290	" Lignaloe				–
291	" Lovage				/
292	" Lemon				–
293	" Rhue				–
294	" Sorgo				–
295	" Lovage root				–
296	" Linette				–
297	" Myrbane				–
298	" Marjolaine				–
299	" Matico				–
300	" Mace				–
301	" Melissa				–
302	" Mustard				–
303	" Nutmegs				–
304	" Neroly Bigrade				–
305	" Parsley				–
306	" Rose				–

		126	1	2	3
307	Oil Stone White				–
308	" " Black				–
309	" Summer Savory				–
310	" Stillingia				–
311	" Pimento Berries				–
312	" Tansy				–
313	" Valerian				–
314	" Vitriol				–
315	" Winter green				–
316	" Wormseed				–
317	" Wormwood				–
318	" Spruce				–
319	" Organum				–
320	" Cubebs				–
321					–
322	" Hemlock				–
323	" Pear				–
324	" Pinus Sylvestris				–
325	" Peppermint				–
326	" Rigo Balsam				–
327	" Rosemary				–
328	" Sennit				–
329	½ Alcohol ½ Ether				–
330	½ alcohol ½ Chloroform				–
331	½ Chloroform ½ CS_2				–
332	Carbon Bi Sulphide				–
333	Benzol				–
334	½ Benzol ½ Ether				–
335	Gasolene				–
336	Naptha				–
337	Turpentine				Evaporates – makes good paint
338	½ Chloroform ½ Benzol				–
339	½ Chloroform ½ Gasolene				–

		1926 1	2	3
340	½ Chloroform ½ Turpentine			
341	½ Chloroform ½ Aether			
342	½ Chloroform ½ Naphtha			
343	½ " ½ Acetone			
344	½ Benzol ½ Turpentine			
345	Alcohol + Benzol			Sus
346	" + Gasolene			Sus
347	" + Turpentine			Sus
348	" + Naphtha			
349	CS_2 + Benzol			
350	" + Gasolene			Sus + film floor
351	" + Turpentine			P.S.
352	" + Naphtha			Sus
353	Benzol + Gasolene			P.S. - slight film - oily
354	" + Naphtha			Sus
355	Gasolene + Turpentine			
356	" + Naphtha			
357	" + Aether			
358	Turpentine + Naphtha			
359	" + Aether			
360	Naphtha + Aether			Sus
361	" + Acetone			
362	Wood alcohol + Ammon			Sus
363				
364				

Solution of Residue obtained by heating linseed oil in air. Solutions were poured in butter dish + left to evaporate

No.	Reagent	Character of Film
32	Allyl Amine	thick + oily
91	Iso Butyl Chloride	oily + sticky
97	" " Amine	" "
102	Butyl Amine (Iso)	" "
78	Benzyl Amine (normal)	" "
179	Piperidine	" "
199	Tetra methyl Diamine / Hydr.	oily
210	Iso propyl Iodide	"
169	Methyl Amine	oily + sticky
84	Butyl iso Bromide	

Solution of Residual obtained by heating & distilling Caprylic oil away from Lin — Reagent | Character of film.

	Reagent	Character of film.
21	Iso Butyl Chloride	Oily & sticky
100	Butyl Nitrosum	oily
3	Aether Oxalicus	Crystalline & friable
72	Benzol Sulfo Chloride	Not wholly Soluble

Substance to be used for insulation. - Obtained by passing Chlorine through Solution of Gelatine. Substance was white & spongy, slightly tough. On standing it gave off Chlorous acid (?) & absorbed moisture. Substance was insoluble in water & most of the ordinary solvents.

(a) Dried substance & dissolved it in acetic acid & evaporated solution to dryness. Tried following chemicals to render it insoluble in water but without success. —

(over)

Gelatine prec. by Chlorine

Phosphoric acid	Sol.
Chlorine water	
Sodium Silicate	
Bichromate Ammon	Decomposed
Potass. Bichromate	
Tannic acid	
Ammon Alum	
Nitric acid (dil)	
Stannic Chloride	decomposed
Mercuric Chloride	Partially Soluble
Carbolic acid 10%	
" " 50 "	
" " 100 "	
Hydrocyanic acid	
Carbolic acid	
Gallic acid 1 gram	
Chloric acid	
Acetate Lead	
Pyroligneous acid	

Ferric Chloride
Picric acid
Creosote
Barium Chloride
Zinc Chloride
Manganese Chloride
Boracic Acid
Chromic acid
Pyrogallic acid
Ferrous Sulphate
Magnesium Chloride
Potassium Sulphate
Silver Nitrate

Chemicals used to dry + make gelatine insoluble in water + heat at same time flexible when dry; —
Water solutions used —
~~S = Soluble~~
S.S. = slightly soluble
V.S. = Very soluble
blank = Soluble in water after solution of reagent + heating to about 212° F.

The gelatine was tried also by soaking in solutions of the chemicals

Gelatine in H_2O Sol.	
Phosphoric acid	
Chlorine water	
Sodium silicate	
Bichromate Ammonia	Swells
" Potash	
Tannic acid in alcohol	
" " " H_2O	
" " gum + salt	
alum (ammonia)	S.S
" (Potash)	
alum + Sodium Chloride +	
Stannic Chloride	
Stannous "	
Mercuric Chloride	Precipitate Sol. in H_2O
Carbolic acid 1%	
" " 5.0 "	
" 10.0 "	
Chloric acid	
acetate of lead	

Ferric Chloride		anthracene	
Picric acid		Aluminium Chloride	
Zinc Chloride		Oxide iron	
Boracic acid		Chromic oxide	
Pyrogallic acid		Lead soap	
Ferrous Sulphate		Zinc soap	
Magnesium Chloride		Barium "	
Ferrous Sulphate		Nickel "	
Silver nitrate		Aluminium "	
Sumac wood ?	Insol	Tannic acid	
Logwood		Rosin	
Cudbear		Catechu	
Brazil wood		Alumina + Tannic acid	precipitate
Cam wood		Oil tansy	
Bromine		Canada Balsam	
Tartaric acid		Oil mowseed	
Tinct Iodine		" spruce	
Salicylic		" tar	
Sulphur		" Juniper berries	
Chloride sulphur		" wood	
Oxalic acid		Balsam fir	
Citric acid		Oil Myrbane	

Balsam Copaiba
Oil cade
" amber
" Camphor
Succus corni
Oil black
" anglini
Bromide alumin
Bismic acid
Calcium sulphide
Nitrite of Amyl
Alizarin
Ammon Chloride
" Carbonate
" Phosphate
" Sulphate
" Nitrite
Antimony tartrate
" Peroxide
" oxide
" trichloride
Bismuth subicarbonate

Bismuth oxychloride
" Subcarbonate
" Hydrate
Cadmium Chloride
" Iodide
Calcium Nitrate
" Tungstate
" Phosphate
" Hypochloride
" Fluoride
Cerium Oxalate
Chromium oxide
Chrome alum
Cobalt Nitrate
Copper ammon Sulphate
Copper Nitrate
" Chloride
Citrate Iron & Ammon
Iron Sulphide
Peroxide Iron
Lead Carbonate
" Sulphate
Stannic acid

Titanium Chloride	
" acetate	
Zinc Sulphide	
" acetate	Precip. Bottle dry
" arsenate	
" Sulphate	
" Cyanide	
Litharge	
Acid Acetic	
" arsenious	
" Boracic	
" Borowolframic	Complete precip.
" Butyric	
" Carbazotic	
" Formic	
" Hydrochloric	
" Hydrofluosilicic.	
" Hydrosulphuric	
" Hypophosphorous	
" Lactic	
" Molybdic	Prec. bottle dry
" Nitrous	

Acid perchloric	
" Phospho Molybdic	prec. Completely
" Phospho Wolframic	Prec.
" Siccinic	
" Sulphovinic	
" Sulphurous	
" Titanic	
" Wolframic	
" Uric	
" Valerianic	
" Albumen	
Aluminum acetate	
" Hydrochlorate	Prec. Sol. in H2O
" Nitrate	
" Oleate	
Ammonium acetate	
" Hydrate	
" Bisulphate	
" Hydrosulphide	
" Hyposulphite	
" Molybdate	
" Nitrate	

ammon Oxalate	
" phosphate	Prec. Sol. in H_2O
" Sulphocarbolate	
amyl hydrate	
anatto	
aniline	
antimony arseniate	
" Crocus	
" Sub. Sulphuret	
" Oxysulphuret	
apatite	
Arsenic bisulphide	
asphaltum	
Barium acetate	
" Peroxide	
" Sulphide	
Bismuth Carbonate	
" phosphate	
Boneash	
Cadmium Nitrate	
Cadmium Bossowfranis	Prec.

Cadmium Bromide	
" Sulphide	
" Sulphocarbolate	
Calamine powder	
Calcium acetate	
" arseniate	
" Benzoate	
" Bisulphite	
" Bromide	
" Butyrate	
" Carbolate	
" Chlorophosphate	
" Chromiate	
" Citrate	
" Formiate	
" Hyposulphite	
" Lacto Phosphate	
" Nitrate	
" Picronitrate	
" Salicylate	
" Silicate	
" Sulphocarbolate	

Casein
Cerium Chloride
Chlorophenol
Cobalt acetate
" arseniate
" Chloride
" Chromate
" Oxalate
" Phosphate
Copper aluminate
" Borate
" Bromide
" Chromate
" Cyanide
" Oxalate
" Phosphate
" Sulpho Carbolate
" Tartrate
Ergotine
Fernambuc wood
Glycine
Hydrocarbon
Inulin
Iron acetate
" Benzoate
" Borocitrate
" Chromate
" Chromate Citrate
" Hyposulphite
" Lactate
" Lactophosphate
" Picrocitrate
" Pyrophosphate
" Salicylate
" Salicinate
" Sulphocarbolate
Lead Benzoate
" Borate
" Cyanide
" Hyposulphite
Lithium carbonate
" Sulphocarbolate
Magnesium Iron Citrate
" Hypophosphite

Prec.
Prec. Purif.
Prec. Pur. as Bs

Magnesium ~~Phosphate~~		Piperine
" Sulphocarbolate		Rhodophyllin
Manganese Acetate		Potassium Benzoate
" Carbonate		Potassium Benzoate
" Hypophosphite		" Biphosphate
" Sulphocarbolate		" Carbolate
" Tannate		" Formate
" Tartrate		" Hypophosphite
Mercurosuite		" Lactate
Mercury acetate	Perc. slightly sol.	" Lactophosphate
" alumminate		" Perchlorate
" Formicate		" Sulphocarbolate
" Phosphate	perc. sol.	" Xanthogenate
" Tannate	Perc.	Pyridine
Naphthaline		Resorcine
Nickel Bromide		Saluine
" Phosphate		Sanguinarine
Pepsine		Santaline
Phenanthrene		Sasaline
Phenol salicylate		Scutellarin
Phenol Succinos.		

Strontium Chloride
" Oxalate
~~Strychnia sp~~
Uranium acetate
Vermillion
Zinc. Chromate
" Phosphate
" Phosphide
" Picronitrate
" Sulphocarbolate

Production of Cl by electrolysis of Sodium Chloride —

Theoretically.

1 ampere hour produces 1.322188 gms Cl.

1.322188 gms = .0029148896 lbs Avoirdupois

1 ampere hr at 4 volts costs .016083¢

reckoning the cost of a H.P. at 3¢.

.0029148896 lbs Cl for .016083¢

1 lb Cl for 5.517¢

At the same time theoretically

1.4897 gms NaOH are produced

1.4897 X .0022046 factor for lbs avoirdupois = .0032831 lbs NaOH

.016083¢ price of H.P. to produce

.0032831 lbs Cl ÷ .0032831 lbs NaOH

= 4.89¢ price per lb. NaOH.

5.517¢ − 4.89¢ = .627¢ as price per lb.

Cl leaving out cost of labor, soda, plant etc. etc.

(over)